

- For the Main Sessions
- theoretical perspectives
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Title: The knotty problem of temporal and causal interpretations of *and*

Any theory aiming at explaining the behaviour of the connective *and* ought to face at least two puzzles involving temporal and causal interpretations of *and*.

First, the restrictions on the inferability of causal interpretations of *and* seem to be tightly related to the temporal order of events, namely: causal interpretations of *and*-sentences are only possible in the iconic order (i.e. the order matching the temporal sequence of events) while the non-iconic order (i.e. the order that is inverse to the temporal one) blocks them. The best illustration of this problem comes with [1]’s observation comparing *and*-sentences and equivalent juxtaposed-sentences, where no such restrictions on causality are attested.

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|---|-----------------------|-------------|
| (1) a. Mary ate too much. She got sick. | <iconic> | |
| b. Mary ate too much and she got sick. | <iconic> | + causality |
| c. Mary got sick. She ate too much. | <non-iconic> | |
| d. Mary got sick and she ate too much. | < non-iconic > | - causality |

Causal interpretations are possible in (1a-c) but not in (1d) where *and* appears in the non-iconic (consequence-cause) order.

However, the full explanation of *and* should also take into account another puzzle - which in fact is a counterexample to the first one - the so-called Horn counterexample (cited in [3]). There are some contexts where causal interpretation of *and* emerges in the ‘wrong’ i.e. the non-iconic order:

- | | |
|---|-----------------------------------|
| (2) Well, John fell and it was slippery. | < non-iconic > + causality |
|---|-----------------------------------|

In sum, the question is to know why it is possible to convey causal relations with *and* only when the temporal order of events is preserved but at the same time in some cases causal interpretation with the non-iconic order is also possible.

There is still disagreement on how these phenomena should be explained. Grice’s initial suggestion to treat them as GCI [5] has been reconsidered in post-Gricean frameworks in terms of explicatures ([7],[2]), in neo-Gricean as I-Heuristic procedure [6], within SDRT approach [8] or in discourse relations view [9].

The solution proposed here aims at explaining the two puzzles in a unified manner *via* presuppositional mechanisms of conjunction.

As it was convincingly argued, projection properties of conjunction are not symmetric: “(...) *p and q* uttered in a context inherits all the presuppositions of both *p* and *q* **except** for any presuppositions of *q* that are contextually entailed by *p* **and in particular** entailed by *p* together with propositions contained in the common ground” [4]:366.

For the knotty problem of temporal and causal interpretations of *and* the crucial role is played by generic type of non-accidental generalizations over events (e.g.: *If it is slippery, then normally one falls*) contained in the common ground. Such generic statements are used in the calculation of presuppositions related to *and* and, as we will argue, they have the power to filter out the presuppositions normally attached to its conjuncts allowing for or blocking causal interpretations.

Hence, the present approach suggests that temporality matters for causality of *and* only because the temporal order of events has to be preserved in non-accidental generalizations which are used in the calculation of presuppositions related to *and*.

(505 words)

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